

Claims 8 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsumura (USP 5,550,506) in view of Tsumura (USP 5,511,097) and further in view of Saito (USP 5,260,975).

For the reasons set forth below, Applicant respectfully traverses the rejections and requests favorable disposition of the application.

Argument

On page 2 of the current office action the Examiner mentions that AGC is not taught or described in the specification. However, as discussed during the interview on July 7, 2004, recitation of “AGC” was intended to be “AFC”, automatic frequency control, as discussed, for example, on page 11 of the specification. AFC is merely an example of the type of correction that is performed by the “external loop” both disclosed and claimed in the present application.

Independent claim 1 recites, *inter alia*;

- a received error rate improving means which improves a received error rate by **weighting differences of symbols before and after a current symbol** to be demodulated and applying feedback;
- a weighting means for applying **weighting to correction values after detection of an external loop**;

Thus, according to the claims, the invention comprises two separate means that each perform different weighting functions. Specifically, the received error rate improving means applies weights to the symbol differences before and after the current symbol and the weighting means applies weights to correction values supplied by an external loop. For example, as discussed at page 10, lines 16-19, and shown in FIG. 1, weighting circuits 16, 17, 18, 29 and 30 are for weighting the symbol differences before and after the current symbol. On the other hand,

as discussed on page 11, lines 15-19, weighting circuit 37 applies the weighting for the correction values. According to one embodiment, circuit 37 also decides the order of priority for plural correction values provided by the external loop.

The asserted prior art references, either alone or in combination, do not disclose the two different means for performing the two different weighting functions. In particular, the Examiner asserts, as clarified during the telephonic interview on July 7, 2004, that the claimed received error rate improving means, in particular, that portion which performs the weighting function before and after the current symbol, is disclosed in the Tsumura '506 reference at FIG. 3, reference numbers 27, 30, 45, 51 and 55. Further, also as discussed during the interview and as mentioned at page 2, last paragraph, of the office action, the Examiner asserts that the claimed weighting means for applying weights to the correction values of the external loop, is disclosed in the '506 reference at FIG. 3, reference numerals 26 and 27.

This argument, however, is inconsistent with the explicit teachings of the prior art. That is, as disclosed at column 4, lines 45-65, reference items 26 and 27 are a first error detecting circuit (MOD) and a first multiplier circuit, respectively. The first error detecting circuit is supplied with the first phase difference signal and detects a first phase error. Subsequently, the first multiplier circuit 27 multiplies the first phase error signal by a predetermined coefficient PC to produce a first multiplied signal. (Col. 4, line 66 through col. 5, line 2). There is no disclosure at all, however, that supports the assertion that multiplier 27, or any of the other multipliers, 30, 45, 51 and 55, perform the function of weighting correction values of an external loop, as claimed. That is, assuming, *arguendo*, that the Examiner's assertion is correct, i.e. that

multiplier 27 performs the weighting function recited for the received error rate improving means of claim 1, that same multiplier does not, and can not also perform the weighting function as explicitly recited for the weighting means. There is simply no two means disclosed in the prior art references that perform the two respective functions of the claimed received error rate improving means *and* the weighting means. Multiplier 27 of the '506 reference arguably performs the function of one of the claimed means, but multiplier 27 of the '506 reference can not, and does not, perform both of the claimed weighting functions. The Tsumura '097 reference does not compensate for the deficiency of the '506 reference in that it also does not disclose the claimed means for performing the two different weighting functions. For at least this reason, the subject matter of claim 1 is patentable over the asserted prior art references, either alone or in combination. Claims 2-8 are patentable at least by virtue of their dependence from claim 1.

In dependent claim 9 recites two different method steps similar to the two different means discussed above, i.e., applying weighting to the symbol differences and applying weighting to correction values of an external loop. Accordingly, for the same reason as discussed above in regard to claim 1, claim 9 is patentable over the asserted prior art references. Claims 10-16 are patentable at least by virtue of their dependence from claim 9.

Conclusion

In view of the foregoing remarks, the application is believed to be in form for immediate allowance with claims 1-16, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to **contact the undersigned** at the telephone number listed below.

Request for Reconsideration under 37 C.F.R. § 1.116
U.S. Appln. No. 09/609,532

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Kevin M. Barner
Registration No. 46,075

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Date: August 2, 2004

Attorney Docket No.: Q59989